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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/036,032

10/26/2001

Matthew Cheng

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EXAMINER

MILLS, DONALD L

ART UNIT

PAPER NUMBER

2616

MAIL DATE

DELIVERY MODE

05/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/036,032

Applicant(s)

CHENG ET AL.

Examiner

Donald L. Mills

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 26 February 2007 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Perlman (US 4,864,559).

Regarding claim 1, Perlman discloses a method and system for the distribution of multicast messages, which comprises:

Assigning each router in said network to one of a plurality of hierarchical level

(Referring to Figures 1 and 2, each router is assigned to one of two hierarchical levels L1 and L2.

See column 5, lines 60-68; column 6, lines 9-32; and column 7, lines 31-39;)

Identifying a scope region for a subnet wherein said scope region is composed of both an upper and a lower hierarchical level in which to route said packets to data (Referring to Figures 1, 2, and 5, the nodes are identified as either level 1 or level 2, level 1 nodes (upper hierarchical level) communicate with level 2 nodes (lower hierarchical level). See column 9, lines 41-48;)

Identifying a root identifier for the scope regions as the hierarchical designated router directly above the scope region for the destination subnet (The Examiner interprets the root identifier as the network address of the multicast router corresponding to the multicast group address. With this interpretation in mind, referring to Figure 5, the ID field 560 includes a multicast bit 580, which indicates that the data message should be distributed according to multicast distribution. Address field 582 (group address) contains the multicast address, which a node uses to test whether the multicast address is of interest to the node. See column 10, lines 36-45;)

Forwarding packets of data from said source to the routers in the subnet wherein said packets of data contain data fields identifying the scope region and the root identifier of the scope region for the subnet (Referring to Figure 5, a node that receives the data message from a sending node and forwards this data message to appropriate nodes according to the multicast group as specified above. See column 8, lines 11-13 and column 10, lines 46-58.)

Regarding claim 2, Perlman discloses *identifying each router that sends packets of data to or from a router at a higher or lower level as hierarchical designated routers* (Referring to Figures 1, 2, and 5, the level 1 router that receives and forwards a message to a level 2 router, as represented in step 714. This level 1 router also receives and forwards a message to a level 1

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router, as represented in step 728. See columns 6, lines 16-29 and column 12, lines 13-20 and 66-68.)

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perlman (US 4,864,559) in view of Shaughnessy et al. (US 6,141,347), hereinafter referred to as Shaughnessy.

Regarding claim 3 as explained in the rejection statement of claim 1, Perlman discloses all of the claim limitations of claim 1 (parent claim).

Perlman does not disclose *identifying a binding point for providing a linkage between the scope region and a location for a receiver that has moved outside the scope region.*

Shaughnessy teaches a subscriber unit roams between sites. And, sends a reconfiguration request to a site to be passed on to a network, as represented by step 503. The configuration request made at step 604 causes a spanning tree associated with a multicast address to be redefined to include a multicast router for the site (Referring to Figures 4-6, see column 7, lines 16-34.)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify a hierarchical network of Perlman to provide a linkage between a scope region and a location for a receiver that has moved outside the scope region, as shown by Shaughnessy, so

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that mobility processing is decentralized, system scalability is improved and call setup delays are minimized as taught by Shaughnessy (See column 8, lines 1-12.)

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perlman (US 4,864,559) in view of Doeringer et al. (US 5,361,256), hereinafter referred to as Doeringer.

Regarding claim 4 as explained in the rejection statement of claim 1, Perlman discloses all of the claim limitations of claim 1 (parent claim). Perlman further discloses *receiving a packet of data at a router in the network and determining whether the router is within the scope region specified in the data field identifying the scope region for the packet of data* (Referring to Figures 1, 2, and 5, a received data message comprises multicast address field 582, which the node uses to test whether a multicast address is of interest to the node. See column 10, lines 18-26 and 40-45.)

Perlman does not disclose *a data packet that is discarded if the router is outside a scope region.*

Doeringer discloses a router that would discard a multicast packet if the router receives the packet for a particular group that does not lie on a branch of a multicast tree (Referring to column 4, lines 63-68.)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify a hierarchical network of Perlman to discard a data packet if a receiving router is outside the scope region, as shown by Doeringer, because the packet does not require the forwarding but none-the-less occupies resources as taught by Perlman (See column 4, lines 32-34.)

Response to Arguments

7. Applicant's arguments with respect to claims 1-4 have been considered but are moot in view of the new ground(s) of rejection, necessitated by the Applicant's amendment to the independent claim.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L. Mills whose telephone number is 571-272-3094. The examiner can normally be reached on 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Donald L Mills

Dem

May 11, 2007

Seema S. Rao
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